

WHAT IS CLAIMED IS:

1. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

an antistatic film provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor to form said electron source, but not on a region of that surface which is to be coupled to the image display member.

2. A precursor according to Claim 1, wherein said antistatic film contains conductive particles.

3. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

a sodium blocking film provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor to form said electron source, but not on a region of that surface which is to be coupled to the image display member.

4. A precursor according to Claim 3, wherein said sodium blocking

09846555.043001

film contains sodium blocking particles.

5. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

an insulating film containing a metal oxide provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor to form said electron source, but not on a region of that surface which is to be coupled to the image display member.

6. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

a SiO₂ film containing a metal oxide provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor to form said electron source, but not on a region of that surface which is to be coupled to the image display member.

7. A precursor according to Claim 6, further comprising another film including SiO₂ disposed on said SiO₂ film.

8. A precursor according to any one of Claims 5 – 7, wherein the metal

09346555-043001

oxide is particulate.

9. A precursor according to any one of Claims 5 – 7, wherein the metal oxide is electron-conductive.

10. A precursor according to any one of Claims 5 – 7, wherein the metal oxide is selected from the group consisting of Fe, Ni, Cu, Pd, Ir, In, Sn, Sb and Re.

11. A precursor to an electron source, said precursor comprising:
a substrate; and
an antistatic film provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface where a getter film is to be disposed to form said electron source.

12. A precursor to an electron source, said precursor comprising:
a substrate; and
a sodium blocking film provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface where a getter film is to be disposed to form said electron source.

13. A precursor to an electron source, said precursor comprising:
a substrate; and
an insulating film containing a metal oxide provided on a surface of

09346556-043004
FOIE40-5594860

said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface where a getter film is to be disposed to form said electron source.

14. A precursor to an electron source, said precursor comprising:
a substrate; and

a SiO₂ film containing a metal oxide provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface where a getter film is to be disposed to form said electron source.

15. A precursor according to Claim 14, further comprising another film including SiO₂ laminated on said SiO₂ film.

16. A precursor according to any one of Claims 13 – 15, wherein the metal oxide is electron-conductive.

17. A precursor according to any one of Claims 13 – 15, wherein the metal oxide is selected from the group consisting of Fe, Ni, Cu, Pd, Ir, In, Sn, Sb and Re.

18. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

09846555-043001

an antistatic film provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface which is to be coupled to the image display member and a region of that surface where a getter film is to be disposed to form said electron source.

19. A precursor according to Claim 18, wherein said antistatic film contains conductive particles.

20. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

a sodium blocking film provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface which is to be coupled to the image display member and a region of that surface where a getter film is to be disposed to form said electron source.

21. A precursor according to Claim 20, wherein said sodium blocking film contains sodium blocking particles.

22. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being

09846555.043001

irradiated by electrons, said precursor comprising:

a substrate; and

an insulating film containing a metal oxide provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor, but not on a region of that surface which is to be coupled to the image display member and a region of that surface where a getter film is to be disposed to form said electron source.

23. A precursor to an electron source, said electron source for being coupled to an image display member to form an image display apparatus, the image display member for displaying an image in response to being irradiated by electrons, said precursor comprising:

a substrate; and

a SiO₂ film containing a metal oxide provided on a surface of said substrate at a region where electron emitting devices are to be disposed on said precursor to form said electron source, but not on a region of that surface which is to be coupled to the image display member and a region of that surface where a getter film is to be disposed to form said electron source.

24. A precursor according to Claim 23, further comprising another film including SiO₂ disposed on said SiO₂ film.

25. A precursor according to any one of Claims 22 – 24, wherein the metal oxide is particulate.

26. A precursor according to any one of Claims 22 – 24, wherein the

09346555.043004

metal oxide is electron-conductive.

27. A precursor according to any one of Claims 22 – 24, wherein the metal oxide is selected from the group consisting of Fe, Ni, Cu, Pd, Ir, In, Sn, Sb and Re.

28. An electron source comprising:
a precursor according to any one of Claims 1 – 7, 11 – 15, and 18 – 24;
and
electron emitting devices disposed on said precursor.

29. An electron source according to Claim 28, wherein each of said electron emitting devices includes a conductive film including having an electron emitting portion.

30. An electron source according to Claim 28, wherein at least some of the electron emitting devices are wired in a matrix configuration through a plurality of row-direction wires and a plurality of column-direction wires.

31. An image display device, comprising:
an electron source, comprising
a precursor according to any one of Claims 1 – 7, 11 – 15, and
18 – 24, and
electron emitting devices disposed on said precursor; and
an image display member for displaying an image in response to
being irradiated by electrons emitted from said electron emitting devices.

09846555-043001
T00E-H0"SS59H860

32. An image display device according to Claim 31, further comprising a supporting member coupling said electron source to said image display member.

33. An image display device according to Claim 31, wherein each of said electron emitting devices includes a conductive film having an electron emitting portion.

34. An image display device according to Claim 31, wherein at least some of the electron emitting devices are wired in a matrix configuration through a plurality of row-direction wires and a plurality of column-direction wires.

034655 043001
F00E40 55594860